

CLAIMS

What is claimed:

1. A hands-free electrical switch, comprising:
an electronic switching element; and
a motion detection element configured to sense an intended, substantially linear switching motion and, upon sensing an appropriate switching motion, to cause the electronic switching element to switch between a first state and a second state.
2. The hands-free electrical switch of claim 1, wherein the motion detection element includes:
at least two emitters; and
at least one detector.
3. The hands-free electrical switch of claim 2, wherein the at least two emitters are in substantial vertical alignment with one another.
4. The hands-free electrical switch of claim 3, wherein the at least one detector is positioned between the at least two emitters.
5. The hands-free electrical switch of claim 1, wherein the motion detector is configured to sense the appropriate switching motion when the appropriate switching motion is effected within about six inches of the motion detection element.
6. The hands-free electrical switch of claim 1, further comprising:
at least one visible position indicator.
7. The hands-free electrical switch of claim 6, wherein the at least one visible position indicator comprises a pair of visible position indicators.

8. The hands-free electrical switch of claim 7, wherein each position indicator of the pair of position indicators comprises a light-emitting diode.

9. The hands-free electrical switch of claim 1, further comprising:
an audio element configured to output an audible signal when the appropriate switching motion is detected by the motion detection element.

10. A hands-free electrical switch, comprising:
at least one processor;
an electronic switching element in communication with the at least one processor;
a pair of substantially aligned emitters configured to emit electromagnetic radiation, each emitter of the pair in communication with and under control of the at least one processor;
at least one detector positioned between the emitters of the pair and in substantial alignment therewith, the at least one detector configured to detect electromagnetic radiation of at least one wavelength emitted by the emitters, the at least one detector in communication with the at least one processor so as to change a state of the electronic switching element upon detection of an appropriate switching motion by the at least one detector.

11. The hands-free electrical switch of claim 10, wherein the electronic switching element comprises an optically coupled triac.

12. The hands-free electrical switch of claim 10, wherein the pair of substantially aligned emitters or the at least one detector is configured such that that at least one detector will sense the appropriate switching motion when effected within about six inches thereof.

13. The hands-free electrical switch of claim 10, further comprising:
at least one visible position indicator.

14. The hands-free electrical switch of claim 10, further comprising:
an audio element configured to output an audible signal when the appropriate switching motion
is detected by the motion detection element.

15. A method for switching a state of an electrical circuit, comprising:
effecting a switching motion in front of a hands-free electrical switch;
detecting the switching motion;
timing the switching motion;
determining whether the timing of the switching motion occurs within a predetermined time
range;
determining whether the switching motion is effected in a direction which corresponds to a
change in the state of the electrical circuit; and
switching the state of the electrical circuit when the switching motion occurs within the
predetermined time range and is effected in a direction that corresponds to a change in
the state of the electrical circuit.

16. The method of claim 15, wherein switching the state of the electrical circuit
comprises opening or closing the electrical circuit.

17. The method of claim 15, wherein detecting the switching motion is effected only
if the switching motion is effected within a predetermined distance from the hands-free electrical
switch.

18. The method of claim 15, further comprising:
visibly indicating a position of the hands-free electrical switch.

19. The method of claim 18, further comprising:
altering a visible indication of the position of the hands-free electrical switch when the state of
the electrical circuit is switched.

20. The method of claim 15, further comprising:
generating an audible signal when the state of the electrical circuit is switched.